

ABSTRACT

A system and method for detecting a protrusion in a medical image are provided. The method comprises: acquiring a medical image, wherein the medical image is of an anatomical part; segmenting the medical image; calculating a distance map of the medical image; calculating a gradient of the distance mapped medical image; and processing the gradient to detect a protrusion in the medical image. The gradient is processed by: projecting a plurality of rays from a location in the distance mapped medical image; calculating a value for each of the plurality of rays based on features of each of the plurality of rays and the gradient of the distance mapped medical image; summing and scaling the value of each of the plurality of rays; and detecting one of a sphere-like and polyp-like shape using the summed and scaled values of the plurality of rays, wherein one of the sphere-like and polyp-like shapes is the protrusion.